## REMARKS

Applicant appreciates the consideration of the response to the previous Office Action. The applicant has thoroughly studied the Office Action of September 9, 2010 and has submitted this request for reconsideratiion in response to that Office Action. Reconsideration of this application is earnestly requested.

No claims are amended, and claims 2 and 34 previously have been cancelled without prejudice. Claims 1 and 3-33 remain pending in the application with claims 1and 15 being the only independent claims.

Claims 1, 3-25 and 27-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Armstrong (US 5,464891) in view of Kim (US 6,424,335), and claim 26 as being unpatentable over Armstrong in view of Kim and further in view of Yokoji (US 6,909,422). These rejections are respectfully traversed.

### 103 Rejections

In rejecting claims 1, and 15, the Examiner indicated that "Armstrong fails to teach a first user interface element configured as claimed and a multiplexer and a common output signal," but that Kim teaches this limitation (O.A., p. 3). The Examiner states that "Kim teaches … a multiplexer for combining the signals from a first user interface element and from a displacement sensor and the second user interface element into a common output signal (Kim, Fig. 25 mouse and trackball in one, Col. 17 line 66 to Col. 18 line 11 multiplexing signals to operate simultaneously).

The applicant respectfully disagrees for the following reasons.

**The Amrstrong reference should not be combined with the Kim reference**

Armstrong discloses a hand manipulated controller having a trackball for controlling or manipulating computer graphic images (col. 1: 19-17). The trackball is manipulated to send "information describing rotation of the trackball about three mutually perpendicular axes" (col. 2: 44-46). In describing his invention, Armstrong states "Disadvantages ... I believe I have inventively overcome with present invention, include the requirement that the trackball housing be moved along a surface in order to input linear moment [sic] information" (col. 1: 42-46) and "Unlike the prior art, such as typical mouse devices which require travel of the ball physically over a surface to activate sensors, and the surface area requirement might be great, the present invention requires no significant physical movement along a surface." (col. 4: 15-19).

The Examiner has relied upon Armstrong for teaching a hand-held housing citing FIGS. 2, 3, and 8, and cites FIG. 8 as teaching "a first user interface element ... generating a first plurality of signals responsive to movement of said hand-held housing relative to two orthogonal axes." The applicant respectfully disagrees with the Examiner's position.

The applicant disagrees with the Examiners interpretation of FIG.8. Each of FIGS. 4, 8, 9, and 10 shows a different mounting cradle or arrangement for the trackball. Each of the embodiments described by Armstrong (a tray in a computer (FIG. 4), a housing structured to rest on a support surface (FIG. 8), a hand held housing (FIG. 9), and a conventional keyboard (FIG. 10) do not require the movement of the housing. Specifically, FIG. 8 shows a "housing 10 structured specifically for carriage 14 and trackball 12, and one which is structured to rest upon a support surface such as a table or desk when utilized." *See*, col. 12: 9-12.

Armstrong's controller is not a hand-held device, and as such, does not move with respect to two orthogonal axes. Armstrong's controller is a stationary device having a track ball, wherein the trackball is manipulated to provide cursor control inputs. *See*, FIGS. 4, 8, and 10, and Abstract, ("A hand manipulated six

degree of freedom controller wherein a partially exposed freely rotatable trackball within a carriage is movable in all linear directions relative to a ***stationary housing***.") *(Emphasis added.)*

Kim teaches a traditional mouse that requires movement over a surface to control a computer pointer. Combining Kim with Armstrong (which teaches that trackball pointing devices do not require movement over a surface) renders the prior art inventions being modified unsatisfactory for their intended purpose, and Armstrong should not be combined with Kim. *See*, MPEP 2143.01.

Because Armstrong's purpose is to describe a trackball pointing device that does not require movement on a surface to control a pointer, combining Armstrong with references describing pointing device that require movement on a surface to control a pointer render those references unsatisfactory for their intended purpose. Kim should not be combined with Armstrong.

**Neither Armstrong nor Kim teaches a multiplexer for combining the signals from the user interface device**

Wikipedia defines multiplexing as a process where multiple analog message signals or digital data streams are combined into one signal over a shared medium, and that a device that performs the multiplexing is called a multiplexer. (*See*, http://en.wikipedia.org/wiki/Multiplexing, accessed July 4, 2010.)

Armstrong's device has only a single trackball (a second user interface element). Armstrong does not teach or reasonably suggest a first user interface element. No multiplexer is present or required to communicate only the signals from the second user interface element (trackball) to the computer because no first user interface element is present.

Kim is directed to a detachable infrared input device comprising a mouse and a touchpad, and the detached input device may be used as ***either*** a mouse or as a touch pad (*emphasis added*). *See*, col. 4: 37-38 and col.16: 54-54.

Kim recognizes the problem of selecting whether the cursor controlling input or the non-cursor controlling input is transmitted to the computer, ("However, in order to use the infrared input device 100 to input non-cursor related information [i.e., information from the touchpad], the computer must distinguish between cursor control inputs and non-cursor control inputs." *See*, col. 18: 30-33.) In order to solve this problem, Kim teaches that only one of the mouse or touch is active at a time to transmit cursor position information to the computer. This is accomplished by toggling the two different inputs to the infrared transmitter ("Circuits which may be used to ***toggle*** between different input devices ... are well known in the art. (*emphasis added*)" See, col. 8: 10-12.)

Toggling a switch is not multiplexing.

The Examiner cites two portions of Kim for teaching a multiplexer and for simultaneously controlling different functions by manipulating the first user interface element and the second user interface element.

The first portion of Kim cited by the Examiner is col. 17:66 to 18:11 which reads:

> The embodiment of FIGS. 23 and 24 performs a signal arbitration function in which when an external input device is connected to an external port (such as an external PS/2 mouse) both glide point 70 and infrared input device 100 are disabled. This arbitration approach is useful when a limited number of ports are connected to the keyboard controller and the same clock/data lines are used (i.e., multiplexing). However, those of ordinary skill in the art of notebook computer design are familiar with methods to modify the firmware of the control circuitry of FIGS. 23 and 24 to work with multiple ports, which would permit an external input device to be used in conjunction with a glide point 70 and infrared input module 100.

This portion of Kim is not directed to multiplexing signals from the first and the second user interface elements, both of which are located on the infrared input module 100. This portion of Kim relates to arbitrating the signals from the glide point 70, which is located on the computer, and from the infrared input module 100, which is external to the computer. *See*, FIG. 1.

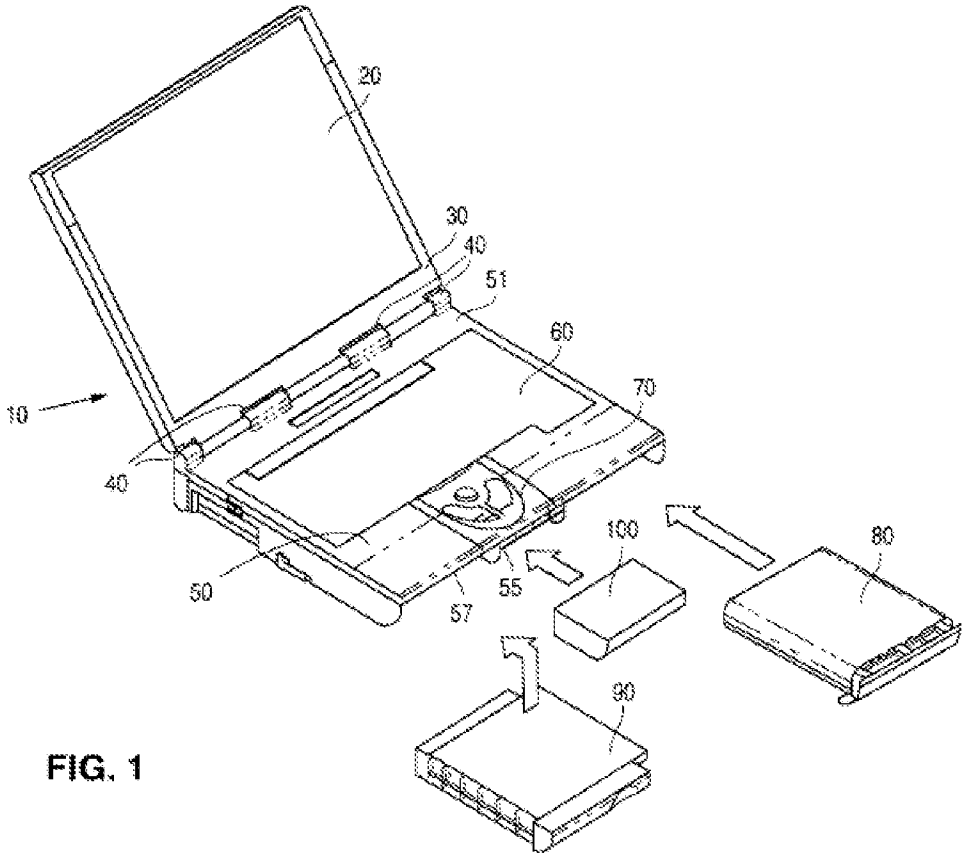



FIG. 1

Claims 1 and 15 of the application recite "a multiplexer for combining the signals from the first user interface element and from the displacement sensor and the second user interface element into a common output signal." Each of the first and second user interface modules and the displacement sensor is located on the user interface device (equivalent to Kim's infrared input module 100), and Kim does not teach multiplexing each of the signals generated on the infrared input module 100 into a common signal. Instead, this portion of Kim is related to arbitrating the signal from the infrared input module 100 with other signals such as the glide point 70.

The second portion of Kim cited by the Examiner is col. 7:55 to 8:12 which reads:

> Preferably, the computer is programmed to permit inputs from the pointing device 70 and the detachable input module 100 in variety of ways, such as an or-mode (accepting inputs from either device simultaneously) or an exclusive-or-mode (only one input device or the other). An or-mode for example, permits a salesperson and a customer to simultaneously input mouse-information to a notebook computer. Preferably the notebook computer has signal arbitration circuitry which permit a first mode in which the notebook computer locks out signals from auxiliary input devices and at least one other mode in which signal inputs from primary and auxiliary inputs are added together cumulatively to permit several input devices to be simultaneously used.
>
> FIG. 2A is a perspective view of a preferred embodiment of the detachable input module 100 which can function as a detachable mouse. The detachable input module 100 also preferably has a touchpad 110 or other device which performs the function of emulating a mouse function based upon a user's finger inputs. This permits the detachable input module 100 to be used to control cursor function even in situations, such as riding in an airplane seat, when it is not possible for the user to use the detachable input module 100 as a mouse. Circuits which may be used to toggle between different input devices, such as mouse/trackball hybrids, are well known in the art.

This portion of Kim also relates to accepting signals a pointing device 70 located on the notebook computer and a detachable input module 100 either in an or-mode or an exclusive-or-mode. In the exclusive-or-mode, a lock-out circuit prevents the notebook computer from receiving signals from auxiliary input devices (detachable input module 100). In the or-mode, both the pointing device 70 located on the notebook computer and a detachable input module 100 can provide simultaneous inputs to the notebook computer.

Unlike Kim, claims 1 and 15 recite "simultaneously controlling different functions by manipulating the first user interface element and the second user interface element." Both the first and the second user interface elements are located on the user interface device (equivalent to Kim's detachable input module 100). The cited portion of Kim relates to receiving signals from a primary input device (pointing device 70) and an auxiliary input device (detachable input module 100), and ***DOES NOT*** relate to receiving signals from the mouse ball 140

and a trackball 702, both disposed on the detachable input module 100 (*see* FIGS. 2A-2B and 25).

Kim does not teach multiplexing signals generated on the detachable input module into a common output signal as required by claims 1 and 15. In fact, Kim teaches that only one of the two signals generated on the detachable input module 100 may be transmitted at one time (*see* col. 8: 10-12, "Circuits which may be used to ***toggle*** between different input devices … are well known in the art.)

Because Kim teaches that only one of the touchpad 110 (or trackball 702) and the mouse ball 140 may be active at a time, signals from the mouse ball 140 and the touch pad 110 (or trackball 702) are not multiplexed as required by independent claims 1 and 15. The signals from the mouse and touch pad are toggled. Further, since the signals from the mouse and touch pad are toggled, they cannot simultaneously control different functions as required by the independent claims.

Neither Armstrong nor Kim teaches a multiplexer for simultaneously controlling different functions from an input device as required by the independent claims. Therefore, the references, singly or in some combination, do not teach all the limitations of the independent claims.

**Claims in Condition for Allowance**

As set forth in MPEP 2143, to show a *prima facie* case for obviousness, all the prior art references, either individually or combined, must teach all the claim limitations. Neither Armstrong nor Kim, or any combination thereof, teaches "a multiplexer for combining the signals … into a common output signal, whereas the common output signal is capable of being de-multiplexed to provide separate parameters for simultaneously controlling different functions…." Also, as argued *supra*, there is no motivation to combine Armstrong with Kim as required by the *prima facie* case for obviousness. Applicant submits that a *prima facie* case for

obviousness has not been shown and that claims 1 and 15 are patentable over the cited prior art. Additionally, claims 3-14 and 16-33 are patentable at least by virtue of dependence upon a patentable independent claim.

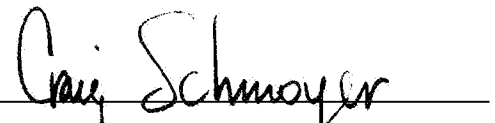
## CONCLUSION

In view of the above amendments and remarks, applicant respectfully requests reconsideration and withdrawal of the rejections, and an early indication of the allowance of the claims. Applicant believes the claims are in condition for allowance and respectfully solicit favorable action.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein; and no amendment made was for the purpose of narrowing the scope of any claim, unless applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

If any points remain at issue that the Examiner feels may be best resolved through a telephone interview, the Examiner is kindly invited to contact the undersigned by telephone at (909) 621-2059 or by email at cwschmoyer@yahoo.com.

Respectfully submitted,

Date: December 8, 2010 By: 

Craig W. Schmoyer
Registration No. 51,007
Attorney for Appellant

Customer No. 96907